

## Washington's 2012 Recycling Produces Results

Recycling in Washington continues to result in important environmental and economic gains. In 2012, residents and businesses recycled and diverted from landfills over 50 percent of the wastes in Washington. While reducing the amount of waste going to landfills is significant, recycling is more than a way to manage wastes – it's an important way to reduce pollution and conserve natural resources.

### Recycling saves energy and reduces greenhouse gas emissions

Using recycled materials to make new paper, plastic, glass, and metal products saves energy. Collecting, processing, and transporting recycled materials almost always uses less energy than extracting, refining, transporting, and processing raw materials. And less energy use also means fewer greenhouse gas (GHG) emissions which current evidence suggests contribute to global climate change.

The 8 million tons of material collected for recycling in Washington in 2012:

- Saved energy equivalent to 1 billion gallons of gasoline or more than 128 trillion British thermal units (BTUs) of energy. This is enough to power 1.1 million homes for a year — or nearly half the households in Washington.<sup>1</sup>
- Prevented 2.6 million tons of GHG emissions — about 765 pounds per person. This is similar to taking 1.9 million vehicles off the road each year — almost half of the passenger cars in Washington. It would take eliminating 52,000 railway cars of coal to prevent the same amount of GHG emissions.

### Recycling conserves natural resources

Recycling reduces the need for mining or logging, along with their harmful environmental effects. Supplying industry with recycled materials, instead of virgin resources from forests and mines, conserves these scarce resources and the habitat they are found in. In 2012, Washington State recycling programs collected 8 million tons of material to supply industry with commodities such as metals, plastics, paper, glass, wood, and construction and demolition scrap.

- Manufacturing recycled products requires, on average, 17 times less energy than manufacturing the same products from virgin materials.<sup>2</sup>
- By recycling nearly 1.5 million tons of scrap metal in 2012, Washington State avoided mining and processing 1.9 million tons of iron ore, 750,000 tons of coal, and 30,000 tons of limestone.<sup>3</sup>
- Every ton of paper recycled saves roughly 17 trees and 7,000 gallons of water. By recycling over 500,000 tons of paper, Washingtonians prevented the use of 8.5 million trees and 3.5 billion gallons of water.<sup>4</sup>

<sup>1</sup> Environmental Protection Agency (EPA) Waste Reduction Model (WaRM): [http://epa.gov/climatechange/wycd/waste/calculators/Warm\\_home.html](http://epa.gov/climatechange/wycd/waste/calculators/Warm_home.html).

<sup>2</sup> University of Massachusetts Amherst: [http://www.umass.edu/recycle/recycling\\_benefits.shtml](http://www.umass.edu/recycle/recycling_benefits.shtml)

<sup>3</sup> University of Massachusetts Amherst: [http://www.umass.edu/recycle/recycling\\_benefits.shtml](http://www.umass.edu/recycle/recycling_benefits.shtml)

<sup>4</sup> Environmental Protection Agency (EPA), Communicating the Benefits of Recycling: <http://www.epa.gov/osw/conserve/tools/localgov/benefits/>

## Recycling lessens emissions of air and water pollutants

Recycling keeps materials out of landfills where they can contaminate groundwater and generate GHGs. It also reduces the amount of pollution entering the air and water and keeps harmful materials out of incinerators that can pollute the air and create ash residue. Compared to using raw materials, using recycled aluminum cans reduces both energy consumption and air pollution by 95 percent.<sup>5</sup>

### Energy & Greenhouse Gas Savings by Recycling in Washington (2012)<sup>6</sup>

Recycled Material	Tons Recycled <sup>7</sup>	BTUs Saved (millions)	GHGs Avoided (MTCE <sup>8</sup> )
Aluminum Cans	13,635	2,090,654	33,215
Steel Cans	15,306	314,259	7,697
Glass	121,163	390,032	12,640
Plastics <sup>9</sup>	77,435	3,220,855	21,688
Corrugated Cardboard	520,585	8,135,551	365,634
Mixed Paper <sup>10</sup>	502,584	9,597,804	356,633
Wood <sup>11</sup>	676,168	3,175,811	31,031
Yard Trimmings	1,047,910	329,344	-23,521
Food Scraps	258,310	196,498	43,253
Other Organics	285,892	-5,272	23,900
Mixed Metals	1,546,981	94,688,692	1,693,935
Landclearing Debris	304,435	350,103	-68,668
Carpet	2,420	53,564	1,591
Computers/Electronics	38,237	1,156,912	24,906
Construction & Demolition Debris <sup>12</sup>	2,386,712	3,693,371	66,394
Tires	48,392	1,293,920	16,212
<b>Subtotal</b>	<b>7,846,165</b>	<b>128,682,098</b>	<b>2,606,541</b>
<b>Other Recycling</b>	<b>196,590</b>	<b>Data not available for all material categories</b>	
<b>Total</b>	<b>8,042,755</b>		

## More information

Beyond Waste plan:

<http://www.ecy.wa.gov/beyondwaste/>.

## Contact

Daniel Weston, 360-407-6409 or

[daniel.weston@ecy.wa.gov](mailto:daniel.weston@ecy.wa.gov)

### Special accommodations:

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<sup>5</sup> Chiras, Daniel D. (2012) Environmental Science. Burlington, MA: Jones & Bartlett Learning.

<sup>6</sup> Washington Department of Ecology's 2012 Recycling Survey: <http://www.ecy.wa.gov/programs/swfa/solidwastedata/>. Savings are relative to energy required and GHGs emitted during production of products using virgin materials; EPA WaRM.

<sup>7</sup> For this analysis, recycling includes composting and burning for energy.

<sup>8</sup> Metric Tons Carbon Equivalent

<sup>9</sup> Includes HDPE, PET, and mixed plastics (EPA WARM).

<sup>10</sup> Includes mixed paper, newspaper, and high-grade paper (EPA WARM).

<sup>11</sup> Includes reused and recycled dimensional lumber, recycled wood and wood burned for energy recovery (EPA WaRM).

<sup>12</sup> Includes fly ash, concrete/asphalt, asphalt shingles, and gypsum/drywall (EPA WARM).